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GLIMPSES

OF

The Largest Educational
Institution in the World





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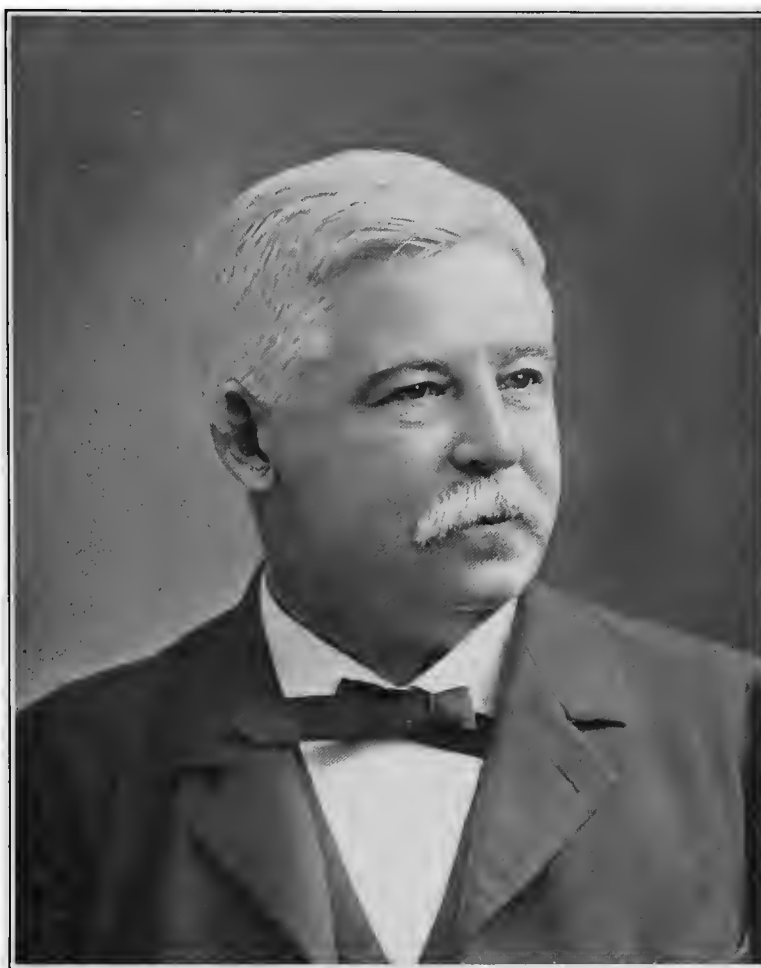
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GLIMPSES OF THE
Largest Educational Institution
In the World

THE
International Correspondence Schools
= SCRANTON, PA.



INTERNATIONAL TEXTBOOK COMPANY
PROPRIETORS



Thomas J. Foster, President of the International Correspondence Schools

T



HE origin of the International Correspondence Schools was due to a law passed by the Pennsylvania legislature in 1885, requiring miners to pass examinations of competency. As a result of this law, a "Question-and-Answer" column was started in the *COLLIERY ENGINEER AND METAL MINER* (now *MINES AND MINERALS*), of which Mr. Thomas J. Foster, our President, was then editor. The aim was to assist miners to pass the mine-law examinations by giving clear and simple explanations of the science of mining, such as could be understood by those of limited education. The success of this column was so immediate that Mr. Foster enlarged on the idea, and in 1891 placed on sale a correspondence course of instruction in coal mining.

That was 14 years ago. From then until now the history of the International Correspondence Schools has been one of astonishing growth, due to the perseverance of President Foster in developing a unique and original educational idea from which has evolved the largest educational institution in the world.

We now teach more than 170 different courses, embracing nearly all branches of industrial science. The students enrolled number more than 800,000, and the Schools occupy three large buildings in Scranton having a total floor space of nearly 7 acres.



THE ADMINISTRATION BUILDINGS

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HESE buildings, erected in 1898, were, until recently, the first and only buildings ever erected for the purpose of correspondence instruction. They now share this distinction with a third building known as the "Instruction Building and Printery," lately built by our Schools.

The Administration Buildings contain all the departments of the Schools that are of a business or administrative nature. There are about seventeen of these departments, including the President's, Manager's, Secretary's, Treasurer's, Controller's, Advertising, and Students' Aid Departments.



THE INSTRUCTION BUILDING AND PRINTERY

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OTWITHSTANDING the large floor area of the Administration Buildings, it was found that their accommodations were entirely inadequate to meet the requirements brought about by the remarkable growth of the Schools; so, for several years, nineteen other buildings in Scranton were occupied wholly or in part by the several departments of the institution. The Instruction Building—recently occupied—was erected to meet these new and pressing requirements.

The Instruction Building is a magnificent structure, strictly modern, and its floor area, added to that of the Administration Buildings, makes a total floor space of about 7 acres.

In this new building there are some thirty Schools and departments, including the offices of the Dean of the Faculty, the Director of Instruction, the Textbook Writers' Department, the Students' Record, General Correspondence, Illustrating, Shipping and Supplies, Printing and Binding Departments, etc.

By assembling all these closely related departments under one roof in a building specially designed for our purposes, the correction of students' work is now performed with greater rapidity than ever before, without sacrificing in the slightest its well-recognized thoroughness.



GUILD HALL, ST. LOUIS EXPOSITION

THE illustration represents the building of the International Correspondence Schools erected at the St. Louis World's Fair. The name "Guild Hall" had its origin in the fact that in England all the different arts, crafts, and trades used to have their separate meeting places, which were called "Guild Halls." On account of our success in furnishing instruction to members of the different arts, crafts, and trades in America, it was decided that the Guild Hall of the Model City at the World's Fair would very appropriately be the building of the International Correspondence Schools.

The I. C. S. Guild Hall was situated about 300 feet from the Manufactures Building and the main entrance to the Fair grounds.

The first floor contained an exhibit of the work done by students of our different courses, and thoroughly demonstrated the benefits of our methods. The upper floor was a "Students' Exchange," where I. C. S. students visiting the Fair enjoyed the conveniences of a well-appointed meeting and resting place, received mail, wrote letters, checked parcels, etc.



THE TEXTBOOK DEPARTMENT

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ALL PUBLICATIONS used by the Schools in connection with instruction work are prepared by the Textbook Department under the supervision of the Dean of the Faculty. The Textbook Department normally consists of about forty men, the majority of whom are also principals of the various Schools, and who are thus brought into direct contact with the persons for whom they write. The textbook writers are, with few exceptions, graduates of colleges and technical schools, and all have had an extended practical experience; many have been members of college faculties. These men devote their entire time to the preparation of technical papers and to conducting the work of our Schools.

In addition to these writers, contracts are made with experts not connected with the Schools to prepare papers on special subjects. The work done by outside experts is, in many cases, practically rewritten by the experts of the Textbook Department in order to adapt it to the needs of our students.

Every possible effort is made to present the subject from the student's standpoint, to anticipate his needs, and to give him only such information as he is likely to need in practice.



THE ILLUSTRATING DEPARTMENT

TO INSURE students a clear understanding of every detail of their studies, our instruction papers and bound volumes are profusely illustrated with drawings specially designed by our own Illustrating Department. Owing to the high character of this work, it was found that the ordinary draftsman was not sufficiently skilled to meet our requirements; so our Illustrating Department was organized, and artists and draftsmen engaged that were thoroughly trained for our particular work.

Thirty men are now constantly employed. A yearly expenditure of \$125,000 is necessary to make our instruction papers and bound volumes the best illustrated textbooks in existence. We have had more than 32,000 illustrations of all kinds prepared especially for our work. Only the very best class of illustrations and the best methods of reproduction are used, so that our students cannot fail to get explicit ideas and complete information regarding the subjects they are studying.



THE PRINTING DEPARTMENT

OF ALL the departments of our institution, the Printing Department is probably the most interesting to the visitor. Here a part of the bound volumes, instruction papers, and other School publications are printed; and it takes 30 presses and 150 employees to do even this amount of the work. The growth of the Schools was so rapid that the amount of printing required was greater than the printing houses of Scranton and the surrounding cities found themselves capable of handling; hence, to overcome this difficulty, the Printing Department was established in 1895.

The value of the present printing plant is estimated at about \$150,000. It is thoroughly up to date in every respect, and it is said to be the largest and best equipped private printery in existence.

The Schools not only do a large part of their own printing, but, in connection with the Printing Department, there is a Bindery where textbooks and volumes are bound. This, too, is thoroughly equipped with modern machinery and appliances.



GENERAL CORRESPONDENCE DEPARTMENT

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HE general correspondence with students, including nearly everything except that relating to the instruction work and accounts, is carried on by the General Correspondence Department. This department employs a large force of stenographers and clerks, and sends out an average of six hundred special letters a day.

Under the management of this department is also the Files Department. In this department a huge card catalog of our students is kept. The system is a duplicate one, arranged in two sets of cases; one an alphabetical file, arranged according to names, and the other a geographical file, arranged according to states and countries in which students live.



THE RECORDING DEPARTMENT

I

N THIS department record is kept of each student's name, address, class letters and number, age, occupation, and other information considered likely to prove valuable. These records are kept on cards filed in cases made especially for this purpose.



When the student's work is corrected by the instructors, it is sent to this department, where a record is taken of the percentage mark awarded, and a note made of other features of the student's work, so that the Schools can at any time tell the exact progress a student is making. If a student's present or prospective employer desires information regarding the progress he has made, or wishes to learn of his capabilities as a student, this information can be furnished immediately by this department on receipt of the student's request or permission. In innumerable ways, the Recording Department is of immense value, both to the student and to the instructor.



THE MAILING DEPARTMENT

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HE Mailing Department is practically a private post office belonging to the Schools. It has the same equipment as the ordinary city post office. The average number of pieces of mail matter handled by this department each day is about 9,000; and about \$125,000 is spent each year for postage stamps.

The mail intended for the Schools is received and sorted at the Scranton city post office, and is delivered to the different buildings by the Schools' own delivery wagons, and there distributed to the different departments by messengers.

Messengers collect the outgoing mail from the different departments every half hour and deliver it to the Mailing Department, where it is weighed, stamped, sorted, and then delivered to the city post office. The great advantage of having this private post office is that it reduces to a minimum the time consumed in handling students' work.



RAILWAY SCHOOL

MORE than 150 railroad companies have made special arrangements with the Schools for the instruction of their employees. This training is valued so highly that some companies require a satisfactory completion of an I. C. S. Course as a qualification for promotion. The following are some of the companies with which we have contracts:

Alabama and Vicksburg
Alabama Great Southern
Algoma Central and Hudson Bay
Atchison, Topeka and Santa Fe
Atchison, Topeka & S. F. Coast Lines
Atlanta & Birmingham Air Line
Bayfield, Lake Shore & Western
Bessemer and Lake Erie
Bloomsburg and Sullivan
Boston and Maine
Buffalo and Susquehanna
Buffalo, Rochester and Pittsburg
Canada Atlantic
Canadian Northern
Canadian Pacific
Central Branch Ry.
Central Indiana
Central New England Railway Co.
Central Railway of New Jersey
Chicago & Alton
Chicago & Eastern Illinois
Chicago and Erie
Chicago and North-Western
Chicago, Cincinnati and Louisville
Chicago Great Western

Chicago, Indianapolis and Louisville
Chicago, Lake Shore and Eastern
Chicago, Milwaukee and St. Paul
Chicago, St. Paul, Minn. and Omaha
Cincinnati, Hamilton and Dayton
Cincinnati, N. O. and Texas Pacific
Cincinnati Northern
Cleveland, Cincinnati, Chicago & St. Louis
Colorado and Southern
Cumberland and Pennsylvania
Delaware, Lackawanna and Western
Denver & Rio Grande R. R.
Drummond and South-Western
Duluth & Northeastern R. R. Co.
Duluth and Northern Minnesota
Duluth, South Shore and Atlantic
Duluth, Virginia and Rainy Lake
Erie Railroad
Evansville and Terre Haute
Ft. Worth and Denver City
Ft. Worth and Rio Grande
Georgia Southern and Florida
Great Northern Railway of Canada
Gulf, Colorado and Santa Fe
Iowa Central

Kansas City, Memphis & Birmingham
Kansas City Southern
Kansas South-Western
Lake Erie and Detroit River
Lehigh and Hudson River Railway
Maine Central Ry.
Manistee and North-Eastern
Manistique, Marquette and Northern
Minneapolis and St. Louis
Minn., St. Paul and S. S. Marie
Missouri, Kansas and Texas
Missouri Pacific
Mobile and Ohio
New Orleans and North-Eastern
New York, New Haven and Hartford
New York, Susquehanna and Western
Norfolk and Southern
Norfolk and Western
Northern Alabama
Oregon Short Line
Paris and Great Northern
Peoria and Eastern
Pere Marquette
Pittsburg, Shawmut and Northern
Port Huron Southern

Quebec and Lake St. John
Quebec Central
Queen and Crescent Route
Quincy, Omaha and Kansas City
Red River, Texas and Southern
Rio Grande Southern
Rio Grande Western
St. Johnsbury & Lake Champlain
St. Louis and Gulf
St. Louis and San Francisco
St. Louis, Iron Mountain and Southern
St. Louis, Louisville Lines, Southern
St. Louis, Memphis and South-Eastern
St. Louis, San Francisco and Texas
San Pedro, Los Angeles and S. L. C.
Seaboard Air Line
Southern Railway
Southern California
Southern Pacific, Salt Lake Division
Toronto, Hamilton and Buffalo
Union R. R. of Pittsburg, Pa.
Union Pacific
Vicksburg, Shreveport and Pacific
Virginia and Southwestern
Wisconsin Central



RAILWAY INSTRUCTION CARS

THE engraving illustrates the interior of one of our air-brake instruction cars. The car is 76 feet long over all and contains a 50-car train equipment of freight brakes. It is fitted with sectional valves, lubricators, and injectors, and has both Westinghouse and New York air brakes in service. At the end of the car is a boiler room in which is a 15-horsepower boiler used to run a 9½-inch Westinghouse and a No. 2 Duplex New York air pump, which supply air to a main reservoir of 42,000 cubic inches capacity. In this room there are also a Pyle-National electric headlight outfit and a 50-light electric dynamo (which supply light for the car).

The lecture room of the car contains signal apparatus, pump, stereopticon outfit, and all the appointments necessary to give the student a clear understanding of the operation of railway apparatus.

The seating capacity of one of these cars is about 36. They carry a crew of five men, who eat and sleep on the car, and are prepared to give instruction at any reasonable hour.

The Schools own and operate eight cars. In addition to these, twelve of the roads have had cars fitted up for instruction in the proper method of firing. These cars have apparatus showing the processes by which heat is evolved from burning coal, and how to obtain the best results from fuel.



STUDY ROOMS IN INDUSTRIAL PLANTS

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ANY of the large industrial plants in the country, recognizing the benefit of the I. C. S. courses of instruction, have fitted up special study rooms for the convenience of those of their employes that become students of the Schools. The illustration is a view of a study room fitted up by the Wm. Cramp Ship and Engine Building Co., of Philadelphia. The room is fully equipped with drawing tables, book cases, long study tables, electric lights, fixtures, etc., and Mr. Cramp has given a fine shop-reference library, to show his personal interest in the project.

The employes enroll in those courses that will help them to a better understanding of their present work, or that will fit them for higher positions; and the facilities of the study room enable them to pursue their studies more advantageously. The fact that the study room provides a meeting place for employes gives additional pleasure to their task of self-improvement.

This plan results beneficially to employers also. The assistant superintendent of a large plant in Ohio said that he readily saw that from \$300 to \$400 per month could be saved in his plant by training the men to read and understand working drawings.

Name _____ Date _____

Full Address _____

C. L. and No. _____ Age _____ Nationality _____ Married _____

Position Wanted _____ Where _____

What other positions could you fill? _____

Least salary you will accept _____ Present salary _____

Present occupation and by whom employed _____

Reasons for leaving _____

Have you ever been discharged? _____ What for? _____

Are you a member of a Labor Union? (Name) _____

[OVER]

DO NOT FOLD THIS BLANK EXCEPT ON THIS LINE

Read Carefully

We are in frequent receipt of requests for experienced and inexperienced men in all lines of work, and if a student wishes to have his name filed on our Eligible List, from which these positions are filled, he must fill out this card and mail it to the Students' Aid Department, I. C. S., Scranton, Pa. Each blank line must be filled out. State facts plainly. Misrepresentations on this blank will debar a student from our assistance in securing a position. When we recommend a student for a vacancy that we have been asked to fill, due notice will be sent to the student. *This blank should be renewed, if desired, at the end of one year. Students must notify Students' Aid Department immediately of a change of address, else they may lose a chance of securing a position.*

THE STUDENTS' AID DEPARTMENT



SOON after the founding of the Schools, requests from employers for our students and graduates for special positions became so numerous that the Schools were compelled to establish a special department, called the Students' Aid Department, to take charge of this work.

Through this department, without charge, the Schools have helped thousands to better positions and increased salaries—by sending reports of progress to employers as each branch of the students' course is finished; by writing special letters of recommendation to prospective employers; by sending names of students to firms inquiring for help; and by furnishing students with lists of names of concerns requiring help in certain lines. Many employers, having students in their employ and wishing to advance them, write to this department to inquire what progress these students are making in their studies, and, with the students' consent, this information is willingly furnished. On other occasions, this department sends such information to present or prospective employers at the students' request. About 12,000 employers throughout the country are regularly receiving these reports. We reproduce above the blank that is filled out by students desiring to take advantage of the benefits rendered by this department.



INSTRUCTION PAPERS AND BOUND VOLUMES

THE Instruction Papers furnished to students are about 9 inches by 6 inches in size, and average about fifty pages each. They are printed in large type on a fine quality of paper, and bound with a substantial paper cover stock.

These Papers were prepared by experts at a total expenditure of about \$1,000,000. They are constantly being revised to keep pace with the most up-to-date developments in the subjects treated, this revision costing nearly \$250,000 yearly.

The Instruction Papers, on account of their great value for reference purposes, have been reprinted on special paper, and bound into beautiful half-leather volumes, fully indexed, forming the I. C. S. Reference Library. Each set of these volumes comprises a complete course in permanent form, and they are furnished to students without additional charge.



EXAMINERS MAKING FIRST CORRECTIONS

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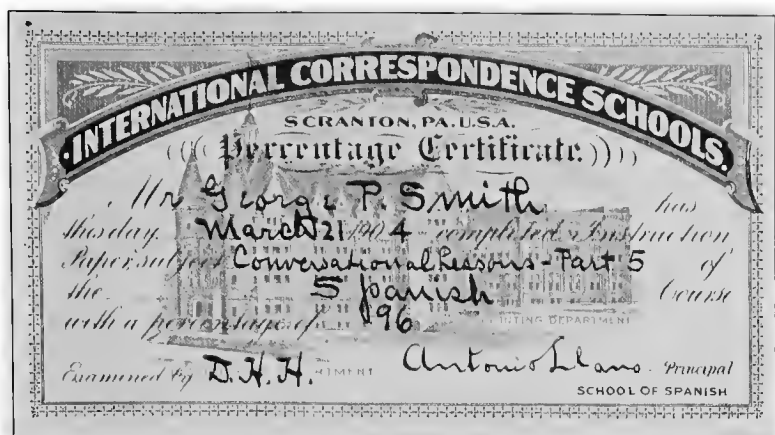
HIS illustration provides a glimpse into the room devoted to the work of the School of Mathematics.



When the students' work is first received at the Schools, it is examined for minor and common errors by the preliminary examiners. These examiners are men and women chosen on account of their previous education and experience. Their fitness for their prospective positions is determined by a careful examination, and they are given a thorough special training, so that students' work will receive the most conscientious attention, even at this early stage of the process of correction.

After the work has been thoroughly gone over by the preliminary examiners, it is examined by the principals and assistant principals, who make the final criticisms and suggestions.

If a student meets with any difficulty in his work he has a special instructor assigned to him who renders all the aid necessary to a satisfactory understanding of the subject.



Certificate of Progress

CERTIFICATE OF PROGRESS

CERTIFICATES of Progress are proofs of merit. They are attached to corrected lesson papers; but only when the work deserves a mark of at least 90 per cent. Each certificate is a statement, signed by the principal of the School of which the student is a

member, declaring that the lesson meets this required high standard.

These certificates are kept by the student and form authentic records showing the student's progress in his course. They are often found helpful to the student in obtaining a position or promotion.

INFORMATION BLANK

BY MEANS of these Information Blanks students may call on the Schools at any time for special information regarding their studies; and they are intended to be used whenever, after conscientious study, the student fails to understand any part of his lessons. They are also used to request information regarding any special matter bearing on the student's course. Students are encouraged by the faculty to make free use of these blanks.

If the use of the Information Blank does not result in giving the desired aid to the student, a special instructor is assigned whose duty it is to give the student personal attention, and through special letters of instruction, additional examples, or any other means of assistance, help the student gain a complete and satisfactory understanding of the subject in question.

INFORMATION BLANK

INTERNATIONAL CORRESPONDENCE SCHOOLS,
SCRANTON, PA., U. S. A.

OBSERVE THE FOLLOWING RULES WHEN USING THIS BLANK:

- (1) Use this blank whenever, after a fair trial, you cannot understand some of the statements occurring in the Instruction Papers or cannot answer some question or work some example in the Question Papers.
- (2) When asking for information regarding an example, the printed answer of which you are unable to obtain, always send us your solution or your work as far as you can go, then we can see just where your mistake is. If you have made any, tell us so we can give you exactly the information you need. Sometimes your answers may differ from ours, owing to the number of decimal places used in your work (usually four are sufficient, but some calculations require more). We make no deduction from your mark in such cases, provided you have made no mistakes in your calculations and have applied the principles correctly.
- (3) ALWAYS WRITE YOUR ADDRESS IN FULL AND YOUR CLASS LETTER AND NUMBER ON **EVERYTHING** YOU SEND US.
- (4) USE THE YELLOW BLANK LAST. We shall then know that you need a new supply of these blanks.

FILL IN ALL BLANK SPACES BELOW.

Name of Student _____ Class Letter and No. _____
Street and No. _____ Date _____ 190____
Post Office _____ State _____
Question No. _____ Page _____
In the _____ Edition of Paper, Subject _____



Scholarship Certificate (Reduced)

CERTIFICATE OF SCHOLARSHIP

THE Certificate of Scholarship is the Schools' guarantee to its students.

Each student that pays for his course in full receives one of these certificates, and it means

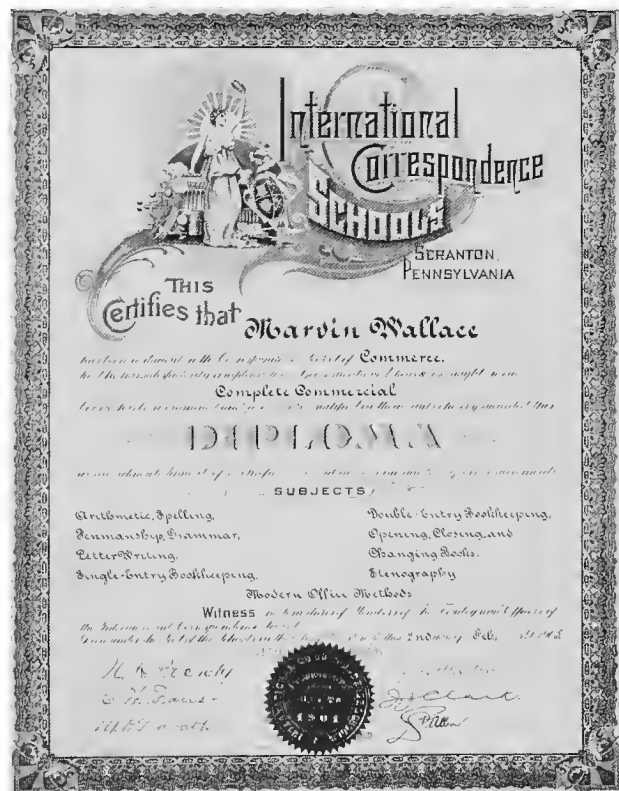
that the Schools will furnish instruction until the student is sufficiently proficient to deserve a diploma. Each certificate bears the signature of the President and the Secretary and is sealed with the Schools' seal.

DIPLOMA

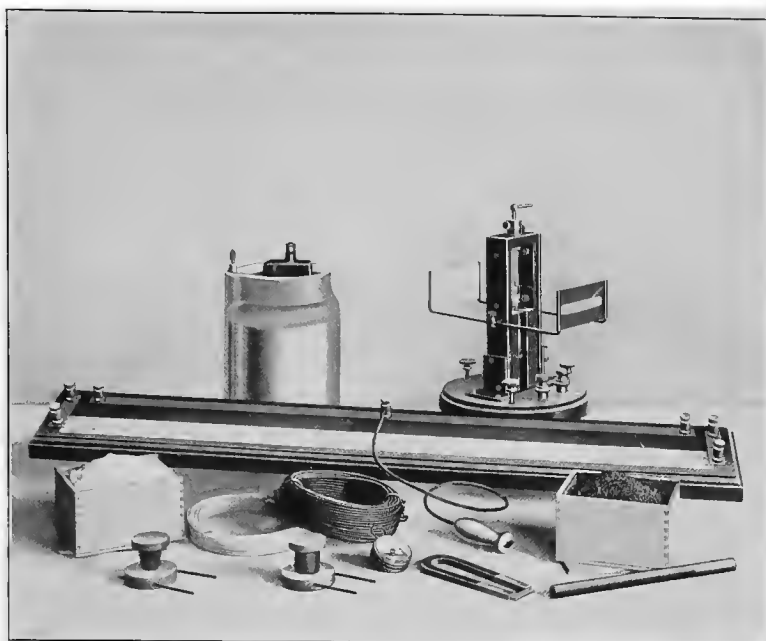
AN I.C.S. Diploma secured means that the student has completed his course and that he has successfully passed his final examinations and been found proficient.

If these final examinations are not satisfactory, the student is required to keep up his studies until he passes. Thus, our diplomas represent a high standard of proficiency. This is why employers give preference to our graduates.

That these are of great worth to students is attested to by the many thousands of our students that have obtained advancement directly through means of their I. C. S. Diplomas.



Diploma of the International Correspondence Schools (Reduced)



I. C. S. Electrical Outfit

SPECIAL OUTFITS

EXPERIENCE has proved that students unacquainted with the particular kind of apparatus that they are obliged to use in their courses will, if left to themselves, frequently pay exorbitant prices for poor instruments and materials. As a result, they do poor work, become discouraged and fail to get the proper amount of benefit from their courses. To obviate this difficulty, the Schools furnish outfits specially adapted to the students' needs and as reasonable as possible in price. Some of these

outfits are furnished to students with their courses without additional charge. In cases where they are not furnished with the courses students are not obliged to purchase outfits from the Schools, but they will save money and be sure of having the proper materials by so doing.

WHAT THE OUTFITS INCLUDE

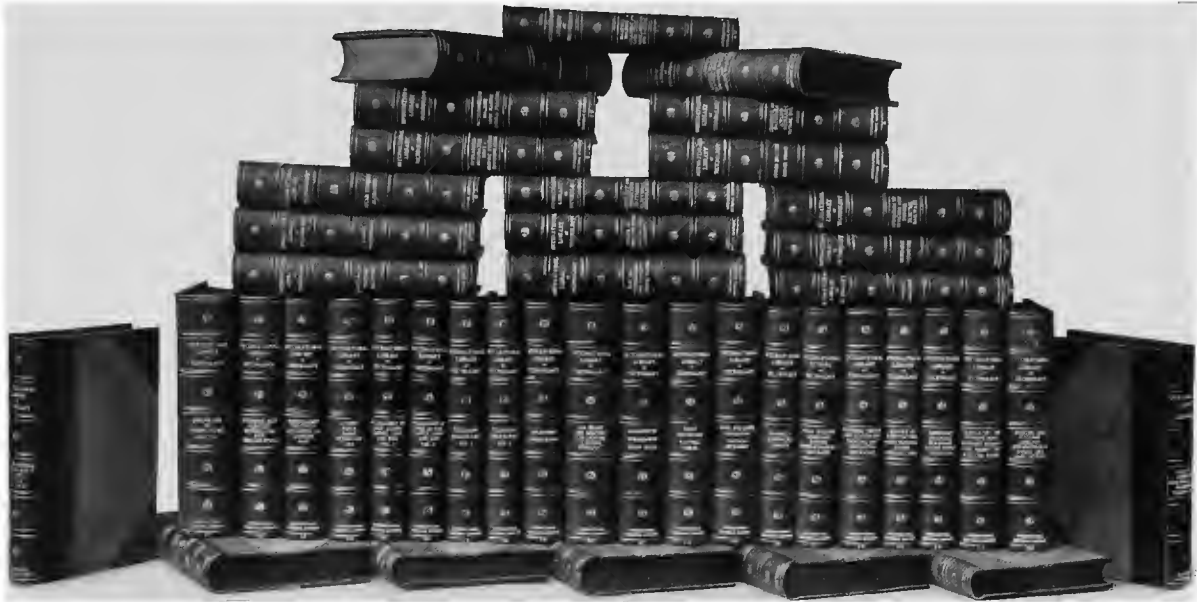
WE illustrate on this page the Electrical Outfit and the Complete Drawing Outfit. The Electrical Outfit consists of a D'Arsonval galvanometer, slide-wire bridge, flexible wire with slider for bridge, two resistance coils (1 and 10 ohms), horseshoe magnet, bar magnet, Leclanché cell, compass, bag iron filings, 75 feet No. 18 B. & S. annunciator wire, one spool No. 24 B. & S. magnet wire, one bag sal-ammoniac, and one zinc rod for cell.

The Complete Drawing Outfit consists of a case of fine German-silver drawing instruments, drawing board, T square, protractor, triangles, scale, paper, etc.

These outfits are not alone of value to students in their studies with the Schools, but also prove extremely useful in practical work.



I. C. S. Complete Drawing Outfit



THE INTERNATIONAL LIBRARY OF TECHNOLOGY

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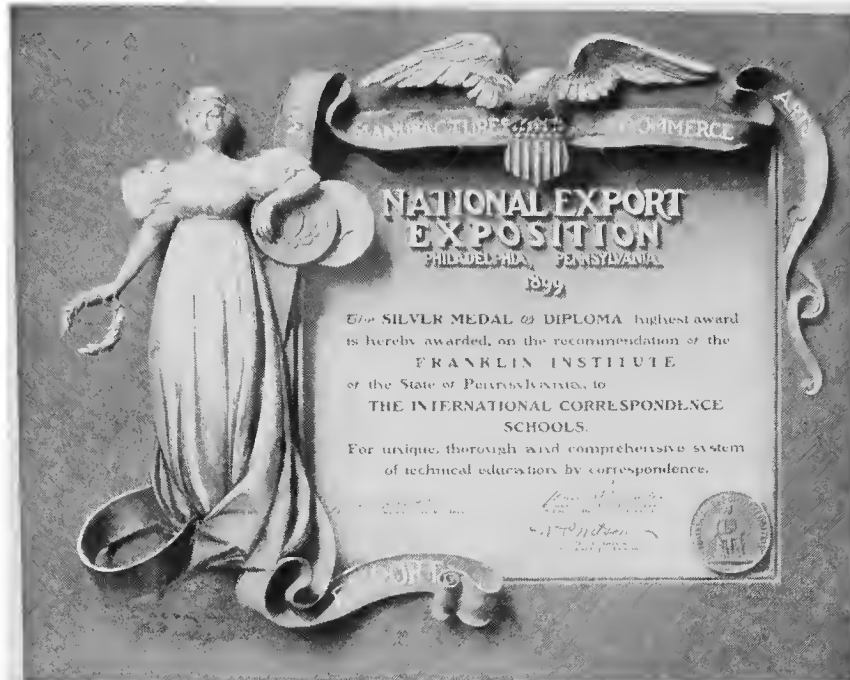


HE International Library of Technology is printed from the plates of the advanced papers of our courses. At the present time, the Library consists of sixty-seven volumes and contains some 40,000 pages and 24,000 illustrations, covering nearly all the trades and professions. Each volume is durably and handsomely bound in three-quarter red morocco, stamped and numbered in gold. The sides are green cloth, and the edges are polished dark red, a singularly pleasing combination of material and colors.

These volumes are unique in that they may be perfectly understood by persons possessing a comparatively elementary knowledge of mathematics, being written from the standpoint that the reader knows nothing whatever about the subject.

The illustrations are a special feature of the work, being in all cases especially adapted to the text. They are the best illustrated technical books in print, and are, withal, the most practical and only connected series of books of this kind ever prepared that can be used by every one.

The fact that this Library is composed of the instruction papers of our various courses, that it is used for reference in the engineering departments of many of the most prominent industrial establishments, in libraries of universities and colleges that stand preeminent among technical schools, and in the various departments of the United States Government, testifies indisputably to the thoroughness and helpfulness of our courses of instruction.



AWARDS OF MERIT

ON THE several occasions when the Schools have had exhibits in the various expositions throughout the country, they have won either medals, diplomas, or both. Of the two diplomas shown, each was given with a medal; one was awarded by the Franklin Institute at The National Export Exposition at Philadelphia in 1899; and the other was won at The Pan-American Exposition at Buffalo in 1901.

At such exhibits we show the work of our students at the different stages of their studies. To illustrate the remarkable progress that our students make, the first crude attempts of the student in Mechanical Drawing are shown side by side with the skilful machine design made by the same student later in his course.





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AT THE Louisiana Purchase Exposition, the Grand Prize, which surpasses in honor all Gold Medals, was awarded the International Correspondence Schools, for Instruction by Correspondence. The illustrations on this page show this Diploma and the Gold Medal Diploma awarded for the excellence of our Department of Arts and Crafts and of our system of teaching Languages by Phonograph. Gold Medals were also received for excellence in Compilation of Textbooks and for Educational Work among the natives of the Philippines.



THE FACULTY

DEAN

JOHN JESSE CLARK, M. E., Dean of the Faculty, and Chief of the Textbook Department, graduated from Lehigh University in 1888. He obtained valuable practical experience in the machine shops of the Fall Brook Coal Co., Corning, N. Y., and with the Latrobe Steel Works, Latrobe, Pa.; he was also employed as a draftsman with both these firms, and for some time had charge of the patterns for the former. Mr. Clark has also held positions as draftsman with Harrison Bros. & Co., Philadelphia, Pa., and with the Stearns Manufacturing Co., Erie, Pa. He left the latter firm to enter the employ of the Schools in 1892.

DIRECTOR OF INSTRUCTION

JOHN LOWREY MARTIN, C. E., Director of Instruction, is a graduate of Rensselaer Polytechnic Institute. For five years he was assistant engineer with a large mining company at Lake Linden, Mich. He was assistant city engineer of Lansing, Mich., for two years; U. S. Engineer Inspector at Chicago, Ill., one year; assayer with the Spotted Horse Mining Co., in Montana, one year. He entered the employ of the Schools May 9, 1898. He was principal of the School of Mathematics and Mechanics until January 1, 1902, when he was appointed Director of Instruction. His thorough knowledge of every detail of the instruction work fully qualifies him to hold this position.

ADVERTISING

WILL ROGERS PARKER, S. B., Principal of the School of Advertising, is a graduate of the Massachusetts Institute of Technology. After engaging in electrical engineering work for several years, he entered the advertising field and on May 1, 1902, became a member of the advertising department of the International Correspondence Schools. Later, he was appointed Assistant Advertising Manager, and on March 4, 1904, on account of his practical experience in handling the many forms of general, mail order, and newspaper advertising done by the Schools, he was made Principal of the recently established School of Advertising.

ARCHITECTURE

W. SCOTT-COLLINS, Architect, Principal of the School of Architecture, is a graduate of the Free Church School, Peebles, Scotland. He worked for ten years as builder's clerk with his father, James Collins, and during this period studied architecture and designed many residences in Peebleshire. Later, he spent one year with George H. Hardy, builder, New York City. In the office of E. L. Walter, Scranton, Pa., he was engaged for nine years as architectural draftsman and superintendent; and was for two years a partner in the firm of Collins & Hunter, Architects, New York City. He entered the employ of the Schools August 1, 1895.

ARTS AND CRAFTS

LOUIS ALLEN OSBORNE, Principal of the School of Arts and Crafts, studied architecture, and was employed as architectural draftsman, in Columbia University. Was a member of the firm of King & Osborne, Architects, and assistant to the supervising architect of the Metropolitan Street Railway Co., New York City. Having a taste for decorative work, he devoted himself entirely to interior decoration, and prepared designs for the decorative treatment of many residences in New York and New England. He became interested in every branch of decorative design, and familiarized himself with both the practical and theoretical sides of the work. He has been in the employ of the Schools since 1895.

CHEMISTRY

GEORGE H. DIMPFEL, Ph. D., Principal of the School of Chemistry, student of the Universities of Strasburg and Heidelberg, and graduate of the University of Leipsic, was engaged in sugar manufacturing in Germany; was assistant in the laboratory of the University of Heidelberg; chemist with a firm making aniline dyes and soda, in Stuttgart, Germany; with Pinaud & Son, Paris, manufacturers of perfumeries; chief chemist with A. D. Catch & Sons, London, Analytical Chemists; chemist with a large sugar refining company of New York; and consulting chemist in New York. He entered the employ of the Schools March 26, 1897.

CIVIL ENGINEERING

ANTONIO LLANO, C. E., Principal of the School of Civil Engineering, is a graduate of the University of Bogota, Colombia, and of the Rensselaer Polytechnic Institute of Troy, N. Y. He was city engineer's assistant at Saratoga, N. Y.; assistant to the chief engineer of construction of the Lexington Avenue Cable Road, New York; and afterwards draftsman with the New York Rapid Transit Co., and the Nicaragua Canal Commission. He was editor of *El Pensamiento Contemporaneo*, a prominent journal of science and philosophy, and is a contributor to the leading scientific and philosophical journals in the country. He entered the employ of the Schools February 19, 1897.

CIVIL SERVICE

WM. D. KOCHERSPERGER, Principal of the School of Civil Service, received his education at Lauterbach's Academy, Philadelphia, and at the U. S. Naval Academy, Annapolis, Md. He has had an extensive experience in the field of Civil Engineering, both in the United States Army and Navy, and in railroad and mining surveys. His long connection with the government and his success as a private tutor for Civil Service Examinations have made him exceptionally fitted to hold the position of Principal of the School of Civil Service. He entered the employ of the Schools in the summer of 1902.

THE FACULTY

COMMERCE

NELSON H. PROUTY, Principal of the School of Bookkeeping and Stenography, is a graduate of Hinman's Business College, Worcester, Mass. He was instructor in shorthand, bookkeeping, and penmanship in Hinman's Business College, Worcester; principal in Bryant & Stratton's Business College, Brooklyn; head bookkeeper for a large organ company in Worcester, Mass.; partner in a wire business in Charlton City, Mass.; treasurer and assistant manager of the Prouty Wire Company, Charlton City, Mass.; principal and proprietor of Prouty's Business College, Athol, Mass. He entered the employ of the Schools in August, 1896.

DRAWING

L. HARALD KJELLSTEDT, C. I., Principal of the School of Drawing, is a graduate of the Government Technical School at Boras, Sweden. He was with the Royal Surveying Department in Sweden as assistant civil engineer and map draftsman, associate editor of *Boras Tidning*, Boras, Sweden; draftsman with the De Laval Separator Company, of New York; draftsman with the Dickson Manufacturing Company, Scranton; and draftsman with the Wightman Electric Manufacturing Company, Scranton. He entered the employ of the Schools in October, 1892. Mr. Kjellstedt has charge of the work of examination and correction of students' plates.

ELECTRICAL ENGINEERING

FRANCIS H. DOANE, A. M. B., Principal of the School of Electrical Engineering, after graduating from Tuft's College, entered the Student's Course at the Schenectady factory of the General Electric Company, later being transferred to the Lynn factory. In 1893 he was associate editor of the *Electrical Age*. For several years he was employed as superintendent of the electrical repair shop, and later manager, of the manufacturing department of a Boston company. Through his employment with the Metropolitan Street Railway Company, of New York City, experience was obtained on inside and outside construction work and maintenance. He has been granted United States patents on electrical devices, and has spent some time on experimental work in connection with them. He entered the employ of the Schools in February, 1900.

ENGLISH BRANCHES

CARRIE W. FAUST, M. of E., Principal of the School of English Branches, is a graduate of the Shenandoah High School, and the State Normal School, Bloomsburg, Pa. After teaching two years, she received the degree Master of English. She was employed as teacher in the public schools of Shenandoah, Pa., seven and one-half years consecutively, and during this period took a course in music, drawing, and painting. She taught painting, and holds a certificate in music from the American Tonic Sol-Fa College of Music, Philadelphia, Pa. She entered the employ of the International Correspondence Schools in February, 1894.

FRENCH

EDOUARD LAMAZE, B. S. and C. A. P., Principal of the School of French, is a native of France. After receiving a college education, he prepared himself for a teacher's career. He graduated from the University of France, and for ten years held a professorship of French literature in the High School at Epinal, Vosges, and College of Reimiremont, Vosges. Mr. Lamaze has been in the United States for 11 years, and during that time he has devoted himself entirely to the teaching of the French language to private pupils, classes, institutions, and to public lectures on French literature. He entered the employ of the Schools March 9, 1901.

GERMAN

WILLIAM A. SIEBER, Ph. D., Principal of the School of German, is a graduate of the Real-Gymnasium and Matriculate of the University of Vienna, Austria. After completing his studies in his native land, he came to America to finish his education, and became a graduate of the State Normal School of Oshkosh, Wis., and a post-graduate of the University of Chicago, Ill. During his long career as an educator, he successively held the following positions: Professor of Modern Languages at St. Augustines College, Benicia, Cal., and the Peekskill Military Academy, Peekskill, N. Y.; Lecturer and Principal of the German Department at the Amherst College Summer School; Master of German at Trinity School, New York City; and Head Master of the Hamlet Lodge Preparatory School, Pomfret Center, Conn. He entered the employ of the Schools July 1, 1903.

LAW

S. FOSTER, Principal of the School of Law, was educated in the common schools of Pottsville, and in the Academy of Orwigsburg, Pa., and by private tutors. He studied law under the Hon. John Bannon, of Pottsville, and Franklin B. Gowen, General Solicitor and President of the Philadelphia & Reading Railroad Company. He was editor and publisher of the *Legal Chronicle*, in which the decisions and opinions of many prominent judges were published, and later published the *Legal Chronicle Reports of Cases*. He entered the employ of the Schools in 1900 as editor in charge of the preparation of the Commercial Law Course, and in 1903 became Principal of the School of Law.

LETTERING AND SIGN PAINTING

CHARLES J. ALLEN, Principal of the School of Lettering and Sign Painting, began the study of these branches in an old established house in Rochester at an early age. After continuing until he was a thoroughly practical workman, he was taken into partnership with the firm, and continued in business from 1882 to 1889, at which date he withdrew from the firm and went into business for himself. In October, 1897, he was appointed instructor of lettering at the Rochester Athenaeum and Mechanics' Institute, which position he held until June 1, 1898, when he resigned to accept his present position with the International Correspondence Schools.

THE FACULTY

LOCOMOTIVE RUNNING

JAMES F. COSGROVE, Principal of the School of Locomotive Running, is a scholar of the University of Wisconsin. He engaged in instruction work in the Mechanical Laboratory of the University of Wisconsin; in the Electrical Department of the Chicago World's Fair; in electrical construction work, Madison, Wis.; in the Engineering Department of the Chicago Bell Telephone Company; chief instructor in the National School of Electricity, of Chicago; educational director of the Chicago School of Electricity; and educational director of the Chicago School of Locomotive Engineers and Firemen. He entered the employ of the Schools July 15, 1898.

MATHEMATICS AND MECHANICS

MOUNT D. GRAVATT, M. Sc., Principal of the School of Mathematics and Mechanics, is a graduate of Rutgers College. Here he studied the course in civil engineering, and won the highest mathematical honors in his class. Later, he took a course in physics at Harvard University. For several years Mr. Gravatt was engaged in teaching; was principal of the public school of South Plainfield, N. J., for three years; was connected with the United States Geodetic Survey for one season; and was engaged for some time in electric railway construction in Massachusetts. He entered the employ of the Schools in 1899.

MECHANICAL ENGINEERING AND SHOP AND FOUNDRY PRACTICE

A. B. CLEMENS, M. E., Principal of the School of Mechanical Engineering, and Acting Principal of the School of Shop and Foundry Practice, is a graduate of Cornell University. For some time after his graduation he was engaged in electrical work with the Electron Manufacturing Company, of Springfield, Mass. Later, Mr. Clemens was connected with the Pond Machine Tool Company, of Plainfield, N. J. He was in charge of educational work of the Young Men's Christian Association of the state of New Jersey, and was afterwards engaged in engineering work with the Dickson Manufacturing Company, now the Allis-Chalmers Company, of Scranton, Pa. He entered the employ of the Schools in July, 1900.

MINES (COAL-MINING DIVISION)

J. T. BEARD, C. E., E. M., Principal of the Coal-Mining Division of the School of Mines, is a graduate of Columbia College. He was assistant engineer in charge of masonry on the Brooklyn approach of the Brooklyn Bridge; resident engineer, Iowa Division, Chicago, Burlington & Quincy Railroad; secretary and treasurer of a prominent coal company; U. S. Dep. Mine Surveyor at Aspen, Colo.; held for six years the office of Secretary of the State Board of Examiners for Mine Inspectors in Iowa; Manager Miller Creek Land and Lime Co., Colo.; Proprietor Iowa Mining Exchange, '91-'96; and author of "Ventilation of Mines." He entered the employ of the Schools June 1, 1896.

MINES (METAL-MINING DIVISION)

EUGENE B. WILSON, C. E., Principal of the Metal-Mining Division of the School of Mines, is a graduate of Yale University. He was with the Pennsylvania Railroad, and later superintendent of the Sterling Mountain Railway and the Sterling Iron and Railway Company's mines. He has had extensive experience in metal mining in Colorado, Idaho, and old Mexico, and is the author of several popular books on mining subjects. He has had extensive experience in the reduction and treatment of ores, especially of gold and silver, and has been connected with coal- and metal-mining interests in Virginia. He entered the employ of the Schools in February, 1901.

NAVIGATION

LIEUT. ERNEST K. RODEN, S. N. R., Principal of the School of Navigation, is a graduate of the Government College of Naval Science and School of Naval Architecture, Sweden. He served in the Swedish Naval Service, and later passed through the different grades in the mercantile navy, and at the age of 22 acquired his first command. He has served as an officer on ships of six different nations. For three years he was chief officer on steamers belonging to the La Platance Steamship Company, Argentine, and later was navigating officer on vessels of the British-American mercantile navy. He entered the employ of the Schools May 27, 1898.

PEDAGOGY

WILLIAM B. RIDENOUR, A. M., Principal of the School of Pedagogy, is a graduate of Bucknell College. He was principal of the High School and Normal School at Paterson, N. J.; principal of a Grammar School, Jersey City; principal of a night school in Brooklyn, N. Y.; teacher of composition, rhetoric, and grammar in an evening high school in Brooklyn, N. Y.; principal of a public school (Grammar No. 43), Brooklyn; writer for several educational book-publishing houses in New York for many years; and is the author of several standard textbooks. He entered the employ of the Schools June 1, 1897.

PLUMBING, HEATING, AND VENTILATION

THOMAS N. THOMSON, Sanitary Engineer, Member of American Society of Heating and Ventilating Engineers, Principal of the School of Plumbing, Heating, and Ventilation, is a scholar of the Heriot-Watt College, Edinburgh. He was assistant lecturer in plumbing and sanitation, and chief instructor in building construction and drawing in the Institute of Science and Technology, Edinburgh; registered as a science teacher by the Science and Art Department, London, England; holds full technological certificate for city of London for sanitary plumbing; worked as journeyman and foreman for sanitary engineers in this country and Europe; and managed a large shop on Long Island. He entered the employ of the Schools May 1, 1894.

THE FACULTY

SHOP AND FOUNDRY PRACTICE

(See Mechanical Engineering)

SPANISH

CARLOS DIAZ, C. E., Ph. D., Principal of the School of Spanish, is a graduate of the University of Caracas, Venezuela. After spending some time in the employ of the Caracas & Valencia Railroad, and as principal of a high school at Caracas, he came to the United States and took a special course in English and engineering subjects at Cornell University, and at Johns Hopkins University. He then returned to Venezuela and became Professor and Secretary of the National College of Engineering at Caracas, resigning after three years in order to travel in Europe and this country. He entered the employ of the Schools in April, 1904.

STEAM AND MARINE ENGINEERING

J. A. GRENING, Principal of the School of Steam and Marine Engineering, received his education in private and technical schools at Berlin, Germany, and afterwards served a three-year apprenticeship as a machinist. Mr. Grening has had a wide experience in marine engineering. He was employed for a number of years in various capacities, from coal passer up, in the engineers' department of ocean steamers; was employed as toolmaker and afterwards as engineer by the National Meter Company, Brooklyn, N. Y., several years; and was engaged in experimental work in New York City. He entered the employ of the Schools in the fall of 1893.

STRUCTURAL ENGINEERING

JOHN M. MARIS, B. S., M. E., Principal of the School of Structural Engineering, is a graduate of the University of Pennsylvania. He was first employed appraising and surveying mill buildings by a consulting engineer in Philadelphia. He was later connected with the Temple Iron and Coal Company, acting in the capacity of mechanical engineer in their Coal Department. He severed his connection with this company to accept a position in the Motive Power Department of the Pennsylvania Railroad, where he was principally engaged in power-plant design. He held this latter position until he became connected with the Schools in January, 1905.

TELEPHONY AND TELEGRAPHY

H. S. WEBB, M. S., Principal of the School of Telephony and Telegraphy, Member of the American Institute of Electrical Engineers, graduated in Electrical Engineering from the Massachusetts Institute of Technology. After graduating, he was engaged in practical electrical work, first in the shop and testing rooms of the General Electric Company, then in electrical contracting and engineering work. He left this work to take charge of the courses in Telephones, Telegraphs, and Electrical Laboratory Testing at Lehigh University. Mr. Webb has also been a popular contributor to the electrical press. He entered the employ of the Schools in June, 1899.

TEXTILES

CHRISTOPHER P. BROOKS, M. S. A., Principal of the School of Textiles, was for fifteen years connected with English textile mills. He established the textile department of the Blackburn, England, Science and Technical Schools, and later was examiner in cotton manufacturing of all the English technical schools. He organized the Lowell, Mass., Textile School, and the New Bedford, Mass., Textile School; is a member of the Society of Arts, of London; honor medalist of the City and Guilds Institute, of London; and a member of the New England Cotton Manufacturers' Association, and of the Organizing Committee of the International Congress of Technical Education as the United States representative. He is the author of several standard works on textiles. He entered the employ of the Schools in December, 1901.

WINDOW TRIMMING AND MERCANTILE DECORATION

EDWARD N. GOLDSMAN, Principal of the School of Window Trimming and Mercantile Decoration, bears a national reputation as designing decorator and expert department-store window trimmer. His practical experience, extending over a period of fourteen years, was gained in some of the largest New York, Chicago, and Western department stores. His work, notably during the last five years, has been recognized by the highest authorities to be the finest examples of all that is progressive, attractive, and up to date in store, window, and mercantile decorative work. The fact that Mr. Goldsman has been the successful contestant in 90 per cent. of the most important window-dressing and decorative contests held in the last few years throughout the states shows that he is an expert and artistic assembler of all classes of merchandise, and therefore well qualified for the responsibilities of his position. For two consecutive terms, Mr. Goldsman was elected President of the National Association of Window Trimmers, previous to which he also served two years as Director.

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